



National Research Center for Career and Technical Education

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Online Occupational Education in Community Colleges: Prevalence, Context, and Organizational Approaches

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The first two phases of this study examine:

- The current state of online occupational programs in community colleges.
- Factors that predict the offering of online occupational programs.
- Institutional approaches that influence the development of online occupational programs.

Phase 1 Overview

Phase 1 examined the current state of online occupational programs in community colleges and explored issues related to contextual factors that influence (a) the offering of online programs and (b) the programmatic connection to workforce development needs. This project is the first national study that categorizes and inventories specific types of online occupational programs in community colleges.

Key Findings from Phase 1

- Among sampled institutions with data available (n = 301), 47.5% offered credit-granting online occupational programs.
- While 47.5% of institutions offer online occupational *programs* (50% or more of coursework is online), previous NRCCTE research found that 76.3% of institutions offer credit-granting occupational *courses* (Johnson, et al., 2003). This finding illustrates a need for colleges to build and promote online *programs*, in order to create increased accessibility for students.
- Most online occupational programs were in subjects that are more easily taught online. In the sample, 43.6% of all online occupational programs were part of the Business Management/Administration and Marketing fields. While programs were available in skill-based fields like Health Science, most such programs were in areas such as Health Informatics, which are more easily taught online.
- Previous NRCCTE research found that courses in skills-based fields like Veterinary Technology and Funeral Service Education can be successfully taught online when integrated with face-to-face, lab, or clinical requirements (Benson, et al., 2004). The current study found that such programs are rare, which illustrates the need for institutions and states to provide the resources necessary to develop such programs, especially in high growth, high need fields like Health Sciences and Green Technologies.
- A small majority of the online occupational programs in the sample award certificates or diplomas (52.4%), rather than associate's degrees (47%). Other studies have found that community college certificate programs have declined in popularity since 1990 (Levesque, et al., 2008). However, online certificate programs provide convenient and accessible options which lead to greater results for some students. Occupational certificate programs can provide students from weaker economic and academic backgrounds with the most opportunity for economic mobility, when compared to pursuing other degree options (Jacobson & Mokher, 2009). This finding illustrates that institutions are providing some valuable online options for students from less advantaged academic and economic backgrounds.

- Institutions with higher percentages of white students are more likely to offer online occupational programs. However, other national studies have found that students of color and white students have comparable participation rates in distance education (Flowers, Moore, & Flowers, 2008; National Center for Education Statistics, 2003b).

Phase 2 Overview

Building on the foundational evidence from the previous phase, Phase 2 includes five case studies and a cross-case analysis to:

- Explore how state/local economic and workforce needs affect which online programs are offered.
- Understand successful organizational approaches to online occupational education challenges.
- Investigate both the successes and failures of online occupational programs.

The research question for Phase 2 is “How do curricular characteristics, institutional contexts, and workforce development needs influence the adoption and implementation of online workforce development programs?”

By examining characteristics of high and low adopters of online occupational programs, we will develop an understanding of the minimal conditions required for the successful offering of these programs. Based on the findings from the previous phase, particular emphasis will be placed on whether institutions offer multiple online programs in hands-on, skill-based fields of study.

Phase 2 Methodology

In Phase 2, we will conduct 2-day site visits at five separate community colleges. Individual case studies will be developed and a cross-case analysis will occur to understand the similarities and differences of issues across the cases. Identification of potential sites will occur through institutional data obtained through Phase 1 and in consultation with the National Council for Workforce Education. Sites will be selected to provide diversity in terms of prevalence of online programs (upper and lower quartiles in number of institutional programs that are online) and community types (urban, rural, suburban).

Importance of Phase 2

- The project reflects two of the three areas prioritized in the Obama administration’s emphasis on community colleges: workforce retraining and online education (Parry, 2009).
- Phase 1 created general foundational knowledge to be explored more deeply in Phase 2, which will create a deeper understanding of both successful and less successful institutional approaches to online occupational education.
- Skill-based online courses are lacking in availability. This project will help policymakers and institutions understand the minimal conditions required to foster online program development in these high demand, high growth occupations.

Phase 3 Overview

The project will be extended to investigate:

- Program outcomes (e.g., industry-recognized credentials)
- Additional policy and practice issues identified in Phase 2
- Emerging priorities from the Department of Education regarding online workforce development (e.g., open source shared content, connection to securing jobs)
- Issues identified in partnership with the National Council for Workforce Education

Contact Information

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Online Occupational Program Offerings

Career Cluster	Career Pathway	Colleges Offering at Least One Program		Total No. of Programs at all Colleges	% of total online occ. programs offered ²
		No.	Percent ¹		
Agriculture, Food, & Natural Resources		13	9.22%	28	2.30%
	Agribusiness Systems	6	4.26%	6	0.50%
	Environmental Service Systems	4	2.84%	7	0.60%
	Natural Resources Systems	1	0.71%	3	0.20%
	Plant Systems	2	1.42%	3	0.20%
	Power, Structural & Technical Systems	5	3.55%	9	0.70%
Architecture & Construction		10	7.09%	14	1.20%
	Design/Pre-Construction	8	5.67%	12	1.00%
	Maintenance/Operations	2	1.42%	2	0.20%
Arts		3	2.13%	5	0.40%
	Journalism & Broadcasting	3	2.13%	4	0.30%
	Visual Arts	1	0.71%	1	0.10%
Business Management & Administration		107	75.89%	495	41.20%
	Administrative & Information Support	50	35.46%	131	10.90%
	Business Analysis	1	0.71%	1	0.10%
	Business Financial Management & Accounting	52	36.88%	105	8.70%
	Human Resources	9	6.38%	11	0.90%
	Management	88	62.41%	235	19.60%
	Marketing and Communications	10	7.09%	12	1.00%
Education & Training		35	24.82%	49	4.10%
	Teaching/Training	35	24.82%	49	4.10%
Finance		2	1.42%	3	0.20%
	Banking Services	1	0.71%	2	0.20%
	Business Finance	1	0.71%	1	0.10%
Government & Public Administration		1	0.71%	1	0.10%
	Public Management & Administration	1	0.71%	1	0.10%
Health Science		56	39.72%	164	13.70%
	Diagnostic Services	6	4.26%	12	1.00%
	Health Informatics	41	29.08%	102	8.50%
	Support Services	1	0.71%	1	0.10%
	Therapeutic Services	30	21.28%	49	4.10%
Hospitality & Tourism		8	5.67%	14	1.20%

¹ Of the 143 institutions in the sample, the percentage offering a program in each Career Cluster and Career Pathway.

² Of the 1201 programs represented in the sample, the percentage of programs offered in each Career Cluster and Career Pathway.

Lodging	1	0.71%	1	0.10%
Recreation, Amusements & Attractions	4	2.84%	5	0.40%
Restaurants and Food/Beverage Services	1	0.71%	1	0.10%
Travel & Tourism	6	4.26%	7	0.60%
Human Services	47	33.33%	101	8.40%
Consumer Services	3	1.42%	3	0.20%
Counseling & Mental Health Services	5	3.55%	6	0.50%
Early Childhood Development & Services	33	23.40%	66	5.50%
Family & Community Services	20	14.18%	23	1.90%
Personal Care Services	3	2.13%	3	0.20%
Information Technology	59	41.84%	178	14.80%
Information Support & Services	44	31.21%	83	6.90%
Network Services	1	0.71%	40	3.30%
Network Systems	17	12.06%	1	0.10%
Programming and Software Development	17	12.06%	22	1.80%
Web and Digital Communications	15	12.06%	33	2.70%
Law, Public Safety, Corrections & Security	49	34.75%	89	7.40%
Correction Services	4	2.84%	5	0.40%
Emergency & Fire Management Services	9	6.38%	19	1.60%
Law Enforcement Services	30	21.28%	42	3.50%
Legal Services	14	10.64%	17	1.40%
Security & Protective Services	6	4.26%	6	0.50%
Manufacturing	7	4.96%	15	1.20%
Health, Safety and Environmental Assurance	2	1.42%	3	0.20%
Maintenance, Installation & Repair	2	1.42%	3	0.20%
Manufacturing Production Process Development	2	1.42%	2	0.20%
Production	1	0.71%	1	0.10%
Quality Assurance	2	1.42%	6	0.50%
Marketing	18	12.77%	29	2.40%
Marketing Communications	5	3.55%	6	0.50%
Marketing Management	13	9.22%	21	1.70%
Merchandising	2	1.42%	2	0.20%
Other	9	6.38%	11	0.90%
Science, Technology, Engineering & Mathematics	2	1.42%	4	0.30%
Engineering & Technology	1	0.71%	3	0.20%
Science and Math	1	0.71%	1	0.10%
Transportation, Distribution, & Logistics	1	0.71%	1	0.10%
Transportation Operations	1	0.71%	1	0.10%